

App. No. 10/668,764  
Amendment Dated: April 17, 2006  
Reply to Office Action of October 17, 2005

**Amendments to the Claims:**

**Claims 1-50 (Canceled)**

51. (Currently Amended) A computer-readable medium containing instructions for causing a computer system to evaluate locality of references for a layout of a computer program, the computer program to be executed by a computer system with a page architecture, each page having memory locations, by:

for each of a plurality of selected memory locations of a page, estimating a working set size of the layout when the layout is positioned to start at that memory location, wherein the estimating of the change in the working set size includes filtering the actual change in working set size from one layout to the next with a filter that is generated from analysis of working set size produced during the improvement of other layouts;

generating the filter using at least one of a frequency-domain analysis and a time-domain analysis of an actual rate of change per improvement and defined rate of change per improvement, the defined rate of change being calculated for each improvement based on knowledge of working set size of subsequent improvements; and

combining the estimated working set size as an indication of the locality of references of the layout of the computer program.

52. (Original) The computer-readable medium of claim 51 wherein the plurality of selected memory locations include each memory location of a page.

53. (Original) The computer-readable medium of claim 51 wherein the plurality of selected memory locations include less than all the memory locations on a page.

54. (Original) The computer-readable medium of claim 51 wherein the plurality of selected memory locations are separated by relatively prime number of memory locations.

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55. (Original) The computer-readable medium of claim 51 wherein the plurality of selected memory locations includes less than all the memory locations on a page and are approximately evenly distributed throughout the page.

56. (Original) The computer-readable medium of claim 51 wherein the plurality of selected memory locations includes less than all the memory locations on a page, are approximately evenly distributed throughout the page, and are separated by relatively prime number of memory locations.

57. (Original) The computer-readable medium of claim 51 wherein the combining of the estimated working set size includes averaging the estimated working set sizes.

58. (Currently Amended) A computer system for estimating the rate of improvement in the working set size for a plurality of layouts of a computer program, the layouts resulting from a layout optimization process, comprising:

a first estimating component that estimates the change in working set size from one improved layout to the next improved layout, wherein the estimating of the change in the working set size includes filtering the actual change in working set size from one layout to the next with a filter that is generated from analysis of working set size produced during the improvement of other layouts, and the filter is generated by using at least one of a frequency-domain analysis and a time-domain analysis of an actual rate of change per improvement and defined rate of change per improvement, the defined rate of change being calculated for each improvement based on knowledge of working set size of subsequent improvements;

a second estimating component that estimates the time needed to improve the layout; and

a combining component that combines the estimated change in working set size with the estimated time needed to improve the working set for that layout to estimate the rate of improvement.

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59. (Original) The system of claim 58 wherein the estimating of the change in working set size includes filtering the actual change in working set size from one layout to the next.

60. (Original) The system of claim 58 wherein the estimating of the time to improve the layout includes evaluating a formula that estimates the time based on estimated numbers of times that various sub-steps are performed when improving the layout.

61. (Original) The system of claim 60 wherein the estimated numbers of times that various sub-steps are performed' are based on evaluating actual results of the improvement..

62. (Original) The system of claim 58 wherein the estimating of the change includes filtering the actual change in working set size from one layout to the next and wherein the estimating of the time to improve the layout includes evaluating a formula that estimates the time based on number of times various sub-steps are performed when improving the layout.

63. (Original) The system of claim 58 wherein the estimating of the change in working set size filters an actual change in working set size and the estimating of time computes the time based on number of times the layout has been improved.

64. (Original) The system of claim 58 including terminating the system when the estimated rate of change per time period is outside of a threshold rate of change.

Claims 65-71 (Canceled)